

$$\begin{aligned} \text{correct } \sum X &= 140000 - 2500 + 2050 \\ &= 137500 + 2050 \\ &= 139550 \end{aligned}$$

$$\bar{X} = \frac{139550}{50}$$

$$= 2791 \text{ Ans.}$$

29. The average ^{marks} student secured by 100 students was 80. Calc on it was found that marks of two students 93 and 58 were mistak as 39 and 85. Find the correct average marks secured.

$$\bar{X} = \frac{\sum X}{N}$$

$$80 = \frac{\sum X}{100}$$

$$\sum X = 8,000 \text{ (correct) (wrong)}$$

$$\begin{aligned} \text{correct, } \sum X &= 8,000 - 39 - 85 + 93 + 58 \\ &= 8151 - 124 \\ &= 8027 \end{aligned}$$

$$\bar{X} = \frac{8027}{100} = 80.27 \text{ Ans.}$$

Q. 30. The means of three samples of size 200, 250 and 300 are 25, 10 and 15 respectively. Find out the mean of the combined distribution.

$$N_1 = 200, N_2 = 250, N_3 = 300$$
$$M_1 = 25, M_2 = 10, M_3 = 15$$

$$\bar{X} = \frac{(N_1 M_1) + (N_2 M_2) + (N_3 M_3)}{N_1 + N_2 + N_3}$$

$$= \frac{(200 \times 25) + (250 \times 10) + (300 \times 15)}{200 + 250 + 300}$$

$$= \frac{5000 + 2500 + 4500}{750}$$

$$= \frac{12000}{750}$$

$$= \frac{48}{3} = 16 \text{ Ans.}$$

8.31. The average income of 100 labourers is Rs. 50 Per day
the average income of 150 labourers is Rs. 60 Per day
Find the combined mean of income of 250 labourers

$$N_1 = 100, N_2 = 150$$

$$M_1 = 50, M_2 = 60$$

$$\bar{X} = \frac{(N_1 M_1) + (N_2 M_2)}{N_1 + N_2}$$

$$= \frac{(100 \times 50) + (150 \times 60)}{100 + 150}$$

$$= \frac{5000 + 9000}{250}$$

$$= \frac{14000}{250}$$

$$= 56 \text{ Rs.}$$